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EXAMINER
HANNETT, JAMES M

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Please find below and/or attached an Office communication concerning this application or proceeding.

PTO-90C (Rev. 10/03)

Office Action Summary	Application No.	Applicant(s)	
	09/593,901	MONROE, DAVID A.	
	Examiner	Art Unit	
	James M Hannett	2612	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 1-45 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) 33,39 and 40 is/are allowed.

6)☒ Claim(s) 1-13, 17-32, 34-38, 41-45 is/are rejected.

7)☒ Claim(s) 14-16 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☒ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on 6/14/2000 is/are: a)☐ accepted or b)☒ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Drawings

Figure 1 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

The following title is suggested: A camera system for day/night operation that includes two image sensors.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1: Claims 1-6, 18, 21, 24, 29-31, 35, 38, 42 and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by USPN 4,646,140 Bailey et al.

2: As for Claim 1, Bailey et al teaches in Figure 2B and Teaches on Column 5, Lines 15-25 a multi-imager camera operable under extremes of illuminations from high ambient lighting conditions to low ambient lighting conditions without the need for multiple optical paths, comprising: A: a single primary lens system for directing a beam (OL); B: a beam-splitting

mirror adapted for receiving and distributing the beam directed by the single lens (SSM); C: the beam-splitting mirror including a dual-path diverting capability, wherein a first portion of the directed beam is diverted in one direction and a second portion of the directed beam is diverted in a second direction; D: a first image sensor for receiving the first portion of the directed beam (CCD1); and E: a second image sensor for receiving the second portion of the directed beam (CCD2).

3: In regards to Claim 2, Bailey et al teaches on Column 2, Lines 20-25 further comprising an image intensifier (II) associated with one of the cameras for intensifying the image under low ambient lighting conditions.

4: As for Claim 3, Bailey et al teaches on Column 1, Lines 19-21 the first diverted beam is a high ambient lighting beam and the second beam is a low ambient lighting beam.

5: In regards to Claim 4, Bailey et al teaches on Column 2, Lines 60-68 that each image sensor is a digital image device (CCD).

6: As for Claim 5, Bailey et al teaches on Column 2, Lines 60-68 that each image sensor is a digital image device (CCD).

7: In regards to Claim 6, Bailey et al teaches on Column 4, Lines 4-15 and Column 5, Lines 7-14 a single data bus for transmitting the data collected and processed by the image sensors and further including selection means for enabling and disabling alternative of the sensors in order to assure only one image sensor is transmitting data on the bus at any time. Bailey et al teaches that the control circuitry in the camera enables the camera to output data to a display from one of the two image sensors depending on the mode of operation. Therefore, the circuitry required to select one of the two image sensors to output data from is viewed as the switching means.

Furthermore, the image data from both the image sensors can be output to a display. However, only data from one of the image sensors can be sent to the display at any one time. Because the data from both the image sensors share the same data lines to transmit data to the display, it is viewed by the examiner that this is equivalent to a shared data bus.

8: In regards to Claim 18, Bailey et al teaches on Column 5, Lines 37-41 controlling the scanning of the image of the digital sensor and producing an output signal. It is inherent in the design of Bailey et al that it include a processor to perform this task.

9: As for Claim 21, Bailey et al teaches on Column 5, Lines 7-14 including a display device associated with the image sensor for displaying the output therefrom.

10: In regards to Claim 24, Bailey et al teaches on Column 4, Lines 10-15 Column 5, Lines 7-25 and in Figure 2B a camera comprising: a single lens system adapted to direct a beam (OL); a mirror adapted to receive and distribute the directed beam (SSM); a first image sensor adapted to receive a portion of the distributed beam (CCD1); a second image sensor adapted to receive a portion of the distributed beam (CCD2); and a switch adapted to select an output from at least one of the sensors.

11: As for Claim 29, Bailey et al teaches on Column 4, Lines 10-15 Column 5, Lines 7-25 and in Figure 2B camera comprising: a single lens system adapted to direct a beam (OL); a mirror adapted to receive and distribute the directed beam (SSM); a first image sensor adapted to receive a portion of the distributed beam (CCD1); a second image sensor adapted to receive a portion of the distributed beam (CCD2); and an image intensifier associated with one of the sensors (II).

12: In regards to Claim 30, Bailey et al teaches on Column 4, Lines 10-15 Column 5, Lines 7-25 and in Figure 2B a camera comprising: a single lens system adapted to direct a beam (OL); a beam splitting mirror adapted to receive and distribute the directed beam (SSM); a first image sensor adapted to receive a portion of the distributed beam (CCD1); a second image sensor adapted to receive a portion of the distributed beam (CCD2); an image intensifier (II), associated with at least one of the sensors (CCD1), adapted to intensify the portion of the distributed beam before being received by at least one of the sensors (CCD1); and at least one relay lens (FFL) Column 4, Lines 53-57 adapted to transfer the intensified portion of the distributed beam to at least one of the sensors.

13: As for Claim 31, Bailey et al teaches on Column 4, Lines 10-15 Column 5, Lines 7-25 and in Figure 2B a camera comprising: a single lens system adapted to direct a beam (OL); a beam splitting mirror adapted to receive and distribute the directed beam (SSM);
a first image sensor adapted to receive a portion of the distributed beam (CCD1); a second image sensor adapted to receive a portion of the distributed beam (CCD2); an image intensifier (II), associated with at least one of the sensors (CCD1), adapted to intensify the portion of the distributed beam before being received by at least one of the sensors (CCD1); and Bailey et al teaches on Column 6, Lines 20-22 a fiber optic bundle adapted to transfer the intensified portion of the distributed beam to at least one of the sensors (CCD1).

14: As for Claim 35, Bailey et al teaches on Column 4, Lines 10-15 Column 5, Lines 7-25 and in Figure 2B a camera comprising: a single lens system adapted to direct a beam (OL);
a mirror adapted to receive and distribute the directed beam (SSM); a first digital image sensor adapted to receive a portion of the distributed beam (CCD1); a second digital image sensor

adapted to receive a portion of the distributed beam (CCD2); a processor adapted to: Bailey et al teaches on Column 5, Lines 37-41 controlling the scanning of the image of the digital sensor and producing an output signal. It is inherent in the design of Bailey et al that it include a processor to perform this task.

15: In regards to Claim 38, Bailey et al teaches on Column 4, Lines 10-15, Column 5, Lines 7-40 and in Figure 2B a camera comprising: a single lens system adapted to direct a beam (OL); a mirror adapted to receive and distribute the directed beam (SSM); a first digital image sensor adapted to receive a portion of the distributed beam (CCD1); a second digital image sensor adapted to receive a portion of the distributed beam (CCD2); and Bailey et al teaches on Column 5, Lines 37-41 controlling the scanning of the image of the digital sensor and producing an output signal. It is inherent in the design of Bailey et al that it include a processor to perform this task.

16: In regards to Claim 42, Bailey et al teaches on Column 4, Lines 10-15 Column 5, Lines 7-25 and in Figure 2B a camera comprising: a single lens system adapted to direct a beam (OL); a mirror adapted to receive and distribute the directed beam (SSM); a first relay lens comprising a first magnification ratio (OL); a second relay lens comprising a second magnification ratio (FFL); a first imager adapted to receive a portion of the distributed beam via the first relay lens (CCD1); and a second imager (CCD2) adapted to receive a portion of the distributed beam via the second relay lens (FFL);

17: As for Claim 43, Bailey et al teaches on Column 4, Lines 10-15 Column 5, Lines 7-25 and in Figure 2B a camera comprising: a single lens system adapted to direct a beam (OL);

a mirror adapted to receive and distribute the directed beam (SSM); a first image sensor adapted to receive a portion of the distributed beam (CCD1); and a second image sensor adapted to receive a portion of the distributed beam (CCD2);

18: Claim 34 is rejected under 35 U.S.C. 102(b) as being anticipated by WO 90/05426 Sefton et al.

19: In regards to Claim 34, Sefton teaches in the abstract and in Figure 1 and on Page 5 a system, comprising: a plurality of cameras (8 and 9) sharing a single optical path (1), the cameras each comprising: a single lens system adapted to direct a beam (1); a beam-splitting mirror adapted to receive and distribute the directed beam (2); a plurality of sensors adapted to receive a portion of the distributed beam (4 and 6); and a switch adapted to select an output from at least one of the sensors (10); and a multiplexer (10), operably coupled to the cameras, adapted to select at least one of the cameras (10).

20: Claims 44 and 45 are rejected under 35 U.S.C. 102(e) as being anticipated by USPN 5,995,141 Hieda.

21: In regards to Claim 44, Hieda teaches in Figure 1 and on Column 3, lines 44-53 a method for stabilizing an image produced by a sensor, comprising: measuring an angular acceleration in two orthogonal axes parallel to an axis of the sensor; twice integrating the angular acceleration in the orthogonal axes; and temporarily offsetting scan timing signals based on the measuring and the integrating.

22: As for Claim 45, Hieda teaches in Figure 1 and on Column 3, lines 44-53 a method for stabilizing an image produced by a sensor, comprising: measuring an angular acceleration in two orthogonal axes parallel to an axis of the sensor; twice integrating the angular acceleration in the

orthogonal axes; and temporarily offsetting scan timing signals based on the measuring and the integrating.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

23: Claims 7-10, 25, 32, and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,646,140 Bailey et al in view of USPN 3,691,302 Gaebele et al.

24: As for Claim 7, Bailey et al teaches the claimed invention as discussed on Claim 6. Bailey at al teaches using electro optical polarizers to control the amount of incident light into the image sensors. Bailey et al does not teach that each image sensor includes an iris and further including a controller for selectively activating and deactivating each iris.

Gaebele et al teaches in Figure 1 and on Column 2, Lines 8-12 that it is advantageous to use an iris (2) and an iris driver (13) to vary the amount of light that is incident onto the image sensor.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the electro-optical polarizers in Bailey with irises as taught by Gaebele et al in order to better control the amount of light that is received by the image sensors.

25: In regards to Claim 8, Bailey et al teaches the claimed invention as discussed on Claim 6. Bailey at al teaches using electro optical polarizers to control the amount of incident light into

the image sensors. Bailey et al does not teach that each image sensor includes an iris and further including a controller for selectively activating and deactivating each iris.

Gaebele et al teaches in Figure 1 and on Column 2, Lines 8-12 that it is advantageous to use an iris (2) and an iris driver (13) to vary the amount of light that is incident onto the image sensor.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the electro-optical polarizers in Bailey with irises as taught by Gaebele et al in order to better control the amount of light that is received by the image sensors

26: As for Claim 9, Gaebele et al further teaches on Column 2, Lines 8-12 that the iris comprises an iris driver (3) and an iris actuator (13).

27: In regards to Claim 10, Gaebele et al further teaches on Column 2, Lines 8-12 that the iris comprises an iris driver (3) and an iris actuator (13).

28: As for Claim 25, Bailey et al teaches on Column 4, Lines 10-15, Column 5, Lines 7-40 and in Figure 2B a camera comprising: a single lens system adapted to direct a beam (OL); a mirror adapted to receive and distribute the directed beam (SSM); a first image sensor adapted to receive a portion of the distributed beam (CCD1); a second image sensor adapted to receive a portion of the distributed beam (CCD2); and Bailey at al teaches using electro optical polarizers (EOP) to control the amount of incident light into the image sensors. Bailey et al does not teach that each image sensor includes an iris and further including a controller for selectively activating and deactivating each iris.

Gaebele et al teaches in Figure 1 and on Column 2, Lines 8-12 that it is advantageous to use an iris (2) and an iris driver (13) to vary the amount of light that is incident onto the image sensor.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the electro-optical polarizers in Bailey with irises as taught by Gaebele et al in order to better control the amount of light that is received by the image sensors

29: In regards to Claim 32, Bailey et al teaches on Column 4, Lines 10-15 Column 5, Lines 7-25 and in Figure 2B a camera comprising: a single lens system adapted to direct a beam (OL); a mirror adapted to receive and distribute the directed beam (SSM); a first image sensor adapted to receive a portion of the distributed beam (CCD1); a second image sensor adapted to receive a portion of the distributed beam (CCD2); an image intensifier adapted to intensify the limited amount of the directed beam (II); and Bailey at al teaches using electro optical polarizers (EOP) to control the amount of incident light into the image sensors. Bailey et al does not teach that each image sensor includes an iris and further including a controller for selectively activating and deactivating each iris.

Gaebele et al teaches in Figure 1 and on Column 2, Lines 8-12 that it is advantageous to use an iris (2) and an iris driver (13) to vary the amount of light that is incident onto the image sensor.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the electro-optical polarizers in Bailey with irises as taught by Gaebele et al in order to better control the amount of light that is received by the image sensors

30: As for Claim 41, Bailey et al teaches on Column 4, Lines 10-15, Column 5, Lines 7-40 and in Figure 2B a camera comprising:a single lens system adapted to direct a beam (OL); a mirror adapted to receive and distribute the directed beam (SSM); a first image sensor adapted to receive a portion of the distributed beam (CCD1); a second image sensor adapted to receive a portion of the distributed beam (CCD2); an image intensifier adapted to intensify the limited amount of the directed beam (II); Bailey et al teaches on Column 5, Lines 37-41 controlling the scanning of the image of the digital sensor and producing an output signal. It is inherent in the design of Bailey et al that it include a processor to perform this task. Bailey at al teaches using electro optical polarizers (EOP) to control the amount of incident light into the image sensors. Bailey et al does not teach that each image sensor includes an iris and further including a controller for selectively activating and deactivating each iris.

Gaebele et al teaches in Figure 1 and on Column 2, Lines 8-12 that it is advantageous to use an iris (2) and an iris driver (13) to vary the amount of light that is incident onto the image sensor. Gaebele et al further teaches on Column 2, Lines 8-12 that the iris comprises an iris driver (3) and an iris actuator (13).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the electro-optical polarizers in Bailey with irises as taught by Gaebele et al in order to better control the amount of light that is received by the image sensors.

30: Claims 11-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,646,140 Bailey et al in view of WO 90/05426 Sefton et al.

31: As for Claim 11, Bailey et al teaches the use of two image sensors to be used for both a day and night mode. However, Bailey et al does not teach that the first sensor is a color sensor and wherein the second sensor is a monochrome sensor.

Sefton teaches in the abstract and on page 5 paragraph 3 That it is advantageous when designing a Day/Night camera to have one of the image sensors be a color image sensor and the second image sensor that is connected to an image intensifier be a monochrome image sensor, in order to generate an optimal image for both day and night modes.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a color image sensor and a monochrome sensor for image sensors (CCD2) and CCD1) respectively. In order to produce an optimal image for both day and night modes.

32: In regards to Claim 12, Sefton further teaches in Figure 1 including an image intensifier (5) positioned between the mirror (2) and the monochrome sensor(6).

33: As for Claim 13, Sefton further teaches on Page 5, Paragraph 3 that the image intensifier can be coupled to the monochrome image sensor be a fiber bundle of a coupling lens. The coupling lens is viewed by the examiner as a relay lens positioned between the image intensifier and the monochrome sensor.

34: Claims 26 and 27 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,646,140 Bailey et al in view of WO 90/05426 Sefton et al in further view of USPN 3,691,302 Gaebele et al.

35: In regards to Claim 26, Bailey et al teaches on Column 4, Lines 10-15, Column 5, Lines 7-40 and in Figure 2B a camera comprising: a single lens system adapted to direct a beam (OL);

a beam splitting mirror adapted to receive and distribute the directed beam (SSM); a image sensor adapted to receive a portion of the distributed beam (CCD1); a image sensor adapted to receive a portion of the distributed beam (CCD2); Bailey et al teaches the use of two image sensors to be used for both a day and night mode. However, Bailey et al does not teach that the first sensor is a color sensor and wherein the second sensor is a monochrome sensor.

Sefton teaches in the abstract and on page 5 paragraph 3 That it is advantageous when designing a Day/Night camera to have one of the image sensors be a color image sensor and the second image sensor that is connected to an image intensifier be a monochrome image sensor, in order to generate an optimal image for both day and night modes.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a color image sensor and a monochrome sensor for image sensors (CCD2) and CCD1) respectively. In order to produce an optimal image for both day and night modes.

Bailey at al teaches using electro optical polarizers (EOP) to control the amount of incident light into the image sensors. Bailey et al does not teach that each image sensor includes an iris and further including a controller for selectively activating and deactivating each iris.

Gaebele et al teaches in Figure 1 and on Column 2, Lines 8-12 that it is advantageous to use an iris (2) and an iris driver (13) to vary the amount of light that is incident onto the image sensor. Gaebele et al further teaches on Column 2, Lines 8-12 that the iris comprises an iris driver (3) and an iris actuator (13).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the electro-optical polarizers in Bailey with irises as taught by Gaebele et al in order to better control the amount of light that is received by the image sensors.

36: As for Claim 27, Bailey et al teaches on Column 4, Lines 10-15, Column 5, Lines 7-40 and in Figure 2B a camera comprising: a single lens system adapted to direct a beam (OL); a beam splitting mirror adapted to receive and distribute the directed beam (SSM); An image sensor adapted to receive a portion of the distributed beam (CCD1); An image sensor adapted to receive a portion of the distributed beam (CCD2); Bailey et al teaches the use of two image sensors to be used for both a day and night mode. However, Bailey et al does not teach that the first sensor is a color sensor and wherein the second sensor is a monochrome sensor.

Sefton teaches in the abstract and on page 5 paragraph 3 That it is advantageous when designing a Day/Night camera to have one of the image sensors be a color image sensor and the second image sensor that is connected to an image intensifier be a monochrome image sensor, in order to generate an optimal image for both day and night modes.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use a color image sensor and a monochrome sensor for image sensors (CCD2) and CCD1) respectively. In order to produce an optimal image for both day and night modes.

Bailey at al teaches using electro optical polarizers (EOP) to control the amount of incident light into the image sensors. Bailey et al does not teach that each image sensor includes an iris and further including a controller for selectively activating and deactivating each iris.

Gaebele et al teaches in Figure 1 and on Column 2, Lines 8-12 that it is advantageous to use an iris (2) and an iris driver (13) to vary the amount of light that is incident onto the image sensor. Gaebele et al further teaches on Column 2, Lines 8-12 that the iris comprises an iris driver (3) and an iris actuator (13).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to replace the electro-optical polarizers in Bailey with irises as taught by Gaebele et al in order to better control the amount of light that is received by the image sensors.

37: Claims 19, 20, 36 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,646,140 Bailey et al in view of USPN 5,995,141 Hieda.

38: As for Claim 19, Bailey et al teaches the claimed invention as discussed in Claim 18. Bailey does not teach the use of including an angular position management system for detecting and controlling the angular position of the system.

Hieda teaches in Figure 1 and on Column 3, lines 44-53 a method for stabilizing an image produced by a sensor, comprising: measuring an angular acceleration in two orthogonal axes parallel to an axis of the sensor; twice integrating the angular acceleration in the orthogonal axes; and temporarily offsetting scan timing signals based on the measuring and the integrating.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the image stabilization system of Hieda in the camera of Bailey et al in order to made an output image more stable.

39: In regards to Claim 20, Hieda teaches in Figure 1 and on Column 3, lines 44-53 a method for stabilizing an image produced by a sensor, comprising: measuring an angular acceleration in two orthogonal axes parallel to an axis of the sensor; twice integrating the angular acceleration in

the orthogonal axes; and temporarily offsetting scan timing signals based on the measuring and the integrating. Hieda does not teach that the acceleration sensors can be gyroscopic accelerometers.

Official notice is taken that it was well know in the art at the time the invention was made to use gyroscopic acceleration sensors in cameras to detect the angular accelerations of the camera.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use gyroscopic accelerometers for the acceleration sensors of Hieda since they were readily available lat the time the invention was made.

40: In regards to Claim 36, Bailey et al teaches on Column 4, Lines 10-15, Column 5, Lines 7-25 and in Figure 2B a camera comprising: a single lens system adapted to direct a beam (OL); a mirror adapted to receive and distribute the directed beam (SSM); a first digital image sensor adapted to receive a portion of the distributed beam (CCD1); a second digital image sensor adapted to receive a portion of the distributed beam (CCD2); Bailey et al teaches on Column 5, Lines 37-41 controlling the scanning of the image of the digital sensor and producing an output signal. It is inherent in the design of Bailey et al that it include a processor to perform this task.

Bailey does not teach the use of including an angular position management system for detecting and controlling the angular position of the system.

Hieda teaches in Figure 1 and on Column 3, lines 44-53 a method for stabilizing an image produced by a sensor, comprising: measuring an angular acceleration in two orthogonal axes parallel to an axis of the sensor; twice integrating the angular acceleration in the orthogonal axes; and temporarily offsetting scan timing signals based on the measuring and the integrating.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the image stabilization system of Hieda in the camera of Bailey et al in order to made an output image more stable. Hieda does not teach that the acceleration sensors can be gyroscopic accelerometers.

Official notice is taken that it was well know in the art at the time the invention was made to use gyroscopic acceleration sensors in cameras to detect the angular accelerations of the camera.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use gyroscopic accelerometers for the acceleration sensors of Hieda since they were readily available lat the time the invention was made.

41: As for Claim 37, Bailey et al teaches on Column 4, Lines 10-15, Column 5, Lines 7-25 and in Figure 2B a camera comprising: a single lens system adapted to direct a beam (OL); a mirror adapted to receive and distribute the directed beam (SSM); a first digital image sensor adapted to receive a portion of the distributed beam (CCD1); a second digital image sensor adapted to receive a portion of the distributed beam (CCD2); Bailey et al teaches on Column 5, Lines 37-41 controlling the scanning of the image of the digital sensor and producing an output signal. It is inherent in the design of Bailey et al that it include a processor to perform this task.

Bailey does not teach the use of including an angular position management system for detecting and controlling the angular position of the system.

Hieda teaches in Figure 1 and on Column 3, lines 44-53 a method for stabilizing an image produced by a sensor, comprising: measuring an angular acceleration in two orthogonal axes parallel to an axis of the sensor; twice integrating the angular acceleration in the orthogonal

axes; and temporarily offsetting scan timing signals based on the measuring and the integrating. Hieda teaches in Figure 1 and on Column 3, lines 44-53 a method for stabilizing an image produced by a sensor, comprising: measuring an angular acceleration in two orthogonal axes parallel to an axis of the sensor; twice integrating the angular acceleration in the orthogonal axes; and temporarily offsetting scan timing signals based on the measuring and the integrating.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include the image stabilization system of Hieda in the camera of Bailey et al in order to made an output image more stable. Hieda does not teach that the acceleration sensors can be gyroscopic accelerometers.

Official notice is taken that it was well know in the art at the time the invention was made to use gyroscopic acceleration sensors in cameras to detect the angular accelerations of the camera.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use gyroscopic accelerometers for the acceleration sensors of Hieda since they were readily available lat the time the invention was made.

42: Claims 17, 22 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over USPN 4,646,140 Bailey et al

43: As for Claim 17, Bailey et al teaches that the single primary lens system comprises a plurality of lens components (OL and DL). Bailey et al does not teach that these lenses can be moved relative to each other to permit zooming capability.

Official notice is taken that it was well known in the art at the time the invention was made to enable a camera to move lens components relative to each other to permit zooming capability.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to enable the camera of bailey et al to have a zooming capability to allow a user to change the size of a captured image.

44: In regards to Claim 22, Bailey et al teaches that the image captured by the image sensor is output to a display. However, Bailey et al does not teach that the display can be contained in a viewfinder for the camera.

Official notice is taken that it was well known in the art at the time the invention was made to include a viewfinder display in a camera system so that a user can view the image captured free from ambient light glair.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to include a viewfinder display in the camera system of Bailey et al so that a user can view the image captured free from ambient light glair.

45: As for Claim 23, Official notice is taken that it was well know in the art at the time the invention was made to made cameras that are handheld and portable in order to allow a user to easily transport a camera.

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to make the camera of Bailey et al handheld and portable in order to allow a user to easily transport a camera.

Allowable Subject Matter

46: Claims 14-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

47: Claims 33, 39 and 40 are allowed.

The following is a statement of reasons for the indication of allowable subject matter: The prior art does not teach or suggest the use of a camera that includes a mirror that distributed light to two image sensors wherein one if the image sensors includes an image intensifier. Furthermore, the prior art does not teach the use of an iris associated with the image sensor that includes an image intensifier that contains first, second, and third modules to filter the sampled output and provide a time constant to the filtered output.

The prior art does not teach or suggest the use of an image sensing device that includes a beam-splitter that directs light to a first image sensor and a second image sensor wherein the first image sensor is a color image sensor that provides chrominance information and the second image sensor is a monochrome image sensor providing luminance information. Furthermore, the prior art does not teach that the color filter is a non-traditional color filter wherein the resolution of the color image sensor is increased based on the filter.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. USPN 4,851,914 Pfanhouser et al teaches the use of a camera that utilizes an intensifier and an image sensor with relay lenses between them; USPN 5,398,055 Nonomura et al teaches the use of a camera with an intensifier, a fiber plate, a relay lens, and an image sensor; USPN 6,633,333 Spencer teaches the use of a camera with a CCD, a fiber bundle, an intensifier,

and an iris; USPN 5,373,320 Johnson et al teaches the use of a camera with an intensifier tube; USPN 5,973,315 Saldana et al teaches the use of a Day/Night optical acquisition system; USPN 3,891,795 Johnson et al teaches the use of a Day-Night camera surveillance system; US 2002/0088925 Nestorovic et al teaches the use of a low light viewer; USPN 5,946,132 Phillips teaches the use of a Day/Night imaging system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to James M Hannett whose telephone number is 703-305-7880. The examiner can normally be reached on 8:00 am to 5:00 pm M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on 703-305-4929. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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James M. Hannett
Examiner
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JMH
February 26, 2004

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